

Amendments to the Claims

Claims 1-6 (Canceled)

Claim 7 (Previously presented): A thin film chip resistor resistant to moisture without use of metallic tantalum comprising:

a substrate;

a continuous metal thin film resistive layer directly attached to the substrate, the metal thin film layer being non-tantalum;

a non-tantalum chip resistor termination attached on each end of the metal thin film resistive layer; an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the metal thin film resistive layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and

the outer moisture barrier formed from deposition of tantalum oxide on the metal thin film resistive layer and not through oxidation of tantalum.

Claim 8 (Original): The thin film resistor of claim 7 wherein the metal film layer is an alloy containing nickel.

Claim 9 (Original): The thin film resistor of claim 7 wherein the metal film layer is an alloy containing chromium.

Claim 10 (Original): The thin film resistor of claim 7 wherein the metal film layer is a nickel-chromium alloy.

Claim 11 (Canceled)

Claim 12 (Original): The thin film resistor of claim 7 wherein the tantalum pentoxide layer is overlaid by sputtering.

Claim 13 (Previously presented): A nickel-chromium alloy thin film chip resistor resistant to moisture without use of metallic tantalum comprising:

- an alumina substrate;
- a single nickel-chromium alloy thin film layer directly contacting the substrate;
- a non-tantalum chip resistor termination attached on each end of the nickel-chromium alloy thin film;
- an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the nickel-chromium alloy thin film layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and
- the outer moisture barrier formed from deposition of tantalum oxide on the nickel-chromium alloy thin film layer and not through oxidation of tantalum.

Claim 14 (Canceled)

Claim 15 (Currently amended): A nickel-chromium alloy thin film chip resistor resistant to moisture without use of metallic tantalum comprising:

- an alumina substrate;

a single nickel-chromium alloy thin film layer directly contacting the substrate;
a non-tantalum chip resistor termination attached on each end of the nickel-chromium alloy thin film;
a passivation layer directly overlaying and contacting the nickel-chromium alloy layer;
an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the passivation layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and
the outer moisture barrier formed from deposition of tantalum oxide on the passivation layer and not through oxidation of tantalum.

Claim 16 (Canceled)

Claim 17 (New): A thin film chip resistor resistant to failures due to electrolytic corrosion under powered moisture conditions without use of a tantalum nitride system and without use of a screen-printed moisture barrier, comprising:
a substrate;
a thin film resistive element overlaid on the substrate;
a chip resistor termination attached on each end of the thin film resistive element; and
an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the thin film resistive element to reduce failures due to electrolytic corrosion under powered moisture conditions.

Claim 18 (New): The thin film chip resistor of claim 17 wherein the outer moisture barrier prevents failure after MIL-STD-202 testing.

Claim 19 (New): The thin film chip resistor of claim 17 wherein the chip resistor termination is wrap around termination.

Claim 20 (New): The thin film chip resistor of claim 17 wherein the thin film resistive element is a metal thin film resistive element.